United States Department of Agriculture
Natural Resources Conservation Service

CSP Job Sheet

Air Quality Enhancement Activities – Particulate Matter

Enhancement Activities
CSP offers the opportunity to reward or encourage activities that address air quality and atmospheric change issues related to agricultural operations.

Benefits
These activities will provide observable improvements in air quality by reducing: airborne particulate matter from agricultural operations, feedlots, and transportation. These activities will also help to reduce particulate matter generation from wind erosion events.

CSP Payments
A participant can earn payments by initiating or maintaining any of the following activities:

- Utilize residue management, conservation tillage, strip cropping, cover crops, or herbaceous wind barriers to reduce dust generation and emissions from agricultural fields
- Reduce travel on unpaved roads, or treat unpaved roads with dust suppressant
- Manage prescribed burning to reduce particulate matter generation
- Replace smudge pots with clean powered burners or wind machines
- Replace burning of orchard residues with chipping, grinding, or shredding
- Install, maintain, and enhance windbreaks to protect fields from erosive winds
- Handle animal mortality offsite at an approved incineration facility, or with an approved incinerator
- Use feed management to reduce nitrogen emissions from animal waste
- Remove manure from feedlot pens, and sprinkle water over the pens to reduce dust generation
- Utilize implements which combine operations to reduce the number of trips across a field

CSP Enhancement Activity Task Sheet
Air Resources: Particulate Matter

Client's Acknowledgement Statement:
I have elected to use the following Air Resource Management activities and understand the requirements of the selected activities (Check all that apply):

- ☐ Utilize residue management, conservation tillage, strip cropping, cover crops, or herbaceous wind barriers to reduce dust generation and emissions from agricultural fields (PM-01)
- ☐ Reduce travel on unpaved roads, or treat unpaved roads with dust suppressant (PM-02)
- ☐ Manage prescribed burning to reduce particulate matter (PM-03)
- ☐ Replace smudge pots with clean powered burners or wind machines (PM-04)
- ☐ Replace burning of orchard residues with chipping, grinding, or shredding (PM-05)
- ☐ Install, maintain, and enhance windbreaks to protect fields from erosive winds (PM-06)
- ☐ Handle animal mortality offsite at an approved incineration facility, or with an approved incinerator (PM-07)
- ☐ Use feed management to reduce nitrogen emissions from animal waste (PM-08)
- ☐ Remove manure from feedlot pens, and sprinkle water over the pens to reduce dust generation (PM-09)
- ☐ Utilize implements which combine operations to reduce the number of trips across a field (PM-10)

I agree that the following information will be provided to NRCS upon request:
Written documentation of the activity preformed (use attached worksheets or equivalent).
Copies of dated receipts for equipment or services purchased.

I understand that CSP Enhancements earnings are subject to payment caps and that my actual payments will depend on my CSP Tier level, the land area affected and the number of activities.

I understand that it is my responsibility to obtain all necessary permits and to comply with all laws, regulations and ordinances pertaining to the application of these activities.

Accepted by: /s/ _____ Date:_____

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CSP Worksheet

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Worksheet 1: Utilize residue management, conservation tillage, strip cropping, cover crops, or herbaceous wind barriers to reduce dust generation and emissions from agricultural fields (PM-01).

Payment: $XX/treated acre

Vegetative cover and residues provide protection at the soil surface to wind speed and wind erosive force; and wind barriers interrupt wind flow downwind of the barrier, reducing wind erosive force and offsite movement of dust from fields. Wind barriers can also intercept dust in the air on the downwind side of the field, reducing the amount of airborne dust leaving the edge of the field.

- Attach certification that your conservation tillage system meets the requirement of providing for 30% residue cover over the soil surface at planting
- Attach certification that your conservation tillage system results in a 50% reduction in the number of passes with equipment over all fields
- Provide photographic evidence of strip cropping and/or herbaceous wind barriers perpendicular to the prevailing erosive wind
- Provide certification or photographic evidence of cover crops during non-cropping periods

Briefly describe your tillage and planting system (including maintaining wind barriers) and your evaluation of its effectiveness:

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Worksheet 2: Reduce travel and speed on unpaved roads and other traffic areas, or treat unpaved roads and other traffic areas with dust suppressant (PM-02)

Payment: $XX/treated 100 square feet

Vehicles traveling on unpaved roads produce more dust the farther and faster they travel. Reducing the amount and speed of traffic on unpaved roads will control dust emissions from the road. Dust suppressants (road oil, other liquid products, or solid emulsifiers) keep road material in aggregates which are large enough to not be entrained in the air.

- Attach receipt showing payment for application of dust suppressant or certification of self-application
- Provide evidence of sticker in vehicles instructing drivers to operate the vehicles below a specified speed when on non-paved roads
- Provide certification of reduced travel distance on unpaved roads

Briefly describe your dust suppressant application and your traffic and speed reduction plan and your evaluation of its effectiveness:

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Worksheet 3: Manage prescribed burning to reduce particulate matter generation (PM-03)

Payment: $XX/treated acre

When managed properly, prescribed burning can be done to minimize emission and transport of particulate matter to neighboring populated areas.

- Provide documentation of weather conditions under which prescribed burn was carried out
- Provide photographic documentation of smoke plume movement
- Provide certification of full implementation of prescribed burn plan

Briefly describe how the prescribed burn was carried out, including efforts undertaken to minimize transport of particulate matter to residences/roads/congested areas:

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Worksheet 4: Replace smudge pots with clean powered burners or wind machines (PM 04)

Payment: $XX/smudge pot replaced

Smudge pots are used in orchards, and fruit and vegetable fields to provide radiant heating and thus minimize crop damage from frost and freezing temperatures. Smudge pot emissions are can contain high concentrations of particulate matter. These can be replaced with clean burners and/or fans which protect crops by breaking up inversions which trap the coldest air near the ground surface.

- Attach receipt of purchase of clean burner and/or wind machines, and include photographic documentation of installation
- Provide certification of number of smudge pots replaced

Briefly describe the type of burners or wind machines purchased and your evaluation of their effectiveness:

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Worksheet 5: Replace burning of orchard residues with chipping, grinding, or shredding (PM-05)

Payment: $XX/100 lbs of organic matter

Chipping, grinding, or shredding orchard prunings reduces particulate matter generation from the common practice of burning the prunings. The product of the chipping can also be used as mulch in the orchards, or possibly sold as mulch to outside customers.

- Attach receipt of purchase of chipping, grinding, and/or shredding machine
- Include signed form agreeing to replace burning with chipping
- Provide certification of number of lbs of mulch produced or sold

Briefly describe the type of mulching machines purchased and your evaluation of their effectiveness:

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Worksheet 6: Install, maintain, and enhance windbreaks to protect fields from erosive winds (PM-06)

Payment: $XX/ 100 ft. of windbreak installed, maintained, or enhanced.

Windbreaks interrupt wind flow downwind of the barrier, reducing wind erosive force over a field. Windbreaks can also intercept dust in the air on the downwind side of the field, reducing the amount of airborne dust leaving the edge of the field.

- Attach receipt of purchase and installation of windbreak trees
- Provide map showing location of new windbreak or maintenance and/or enhancement of existing windbreak

Briefly describe your evaluation of the effectiveness of the new or renovated windbreak to control dust from wind erosion:

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Worksheet 7: Handle animal mortality offsite at an approved incineration facility, or with an approved incinerator (PM-07)

Payment: $XX/ animal unit equivalent

Animal carcass treatment or disposal should be considered as a component of a waste management system for livestock or poultry operations. It applies where on-farm carcass treatment and disposal are permitted by federal, state, and local laws, rules, and regulations. Use of an approved incinerator onsite, or transport of carcasses to an approved facility will reduce particulate matter generation from dead animal disposal.

- Provide documentation transport of carcasses off site, or
- Provide certification of acceptable incineration (including technology to reduce particulate matter generation) onsite

Describe briefly your method of carcass disposal:

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Worksheet 8: Use feed management to reduce nitrogen emissions from animal waste (PM-08)

Payment: $XX/ animal unit equivalent

Nitrogen from animal waste, particularly in the ammonia form, can lead to development of airborne nitrogen particles through nitrification of the ammonia. These particles can contribute to total concentrations of fine particulate matter (PM<2.5 micrometers) in the air. Feed management plans can reduce the ammonia concentration in animal waste, and reduce animal production contributions to airborne particulate matter.

- Provide documentation or a copy of your feed management plan

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Worksheet 9: Remove manure from feedlot pens, and sprinkle water over the pens to reduce dust generation (PM-09)

Payment: $XX/ animal unit equivalent

Animal traffic on dry, compacted manure can be a source of particulate matter. Removing manure from feedlot pens will reduce the potential of the animals to kick up dust as they move about. Light sprinkling of water in cleaned pens will help to minimize dust from remaining manure. Care must be taken to ensure that watering does not result in increases in odors from wet manure, nor in increases of ammonia production from the remaining manure, which can cause increased airborne particulate matter resulting from nitrogen particulates.

- Provide documentation (such as an approved schedule or plan) of timely manure removal from feedlots
- Provide photographic evidence and documentation of a water sprinkling system in the feedlots

Briefly describe how often you remove manure from the feed lots, and how often water is used to keep down dust.

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Worksheet 10: Utilize implements which combine operations to reduce the number of trips across a field (PM-10)

Payment: $XX/reduced trip/acre

Operations which require trips across a field may be combined to reduce the total number of field trips, reducing potential particulate matter generation from field trips. Nutrients and pesticides could be applied simultaneously. Multi-tillage tools can conduct multiple types of tillage on one pass across the field.

- Provide documentation of the reduction in the number of trips across a field for a year
- Provide photographic evidence of the implements which combine operations